



Employment Outcomes for People with Spinal Cord Injuries: Vocational Rehabilitation RSA 911 Closure Data FY 2011, 2012, and 2013

RESEARCH BRIEF

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Introduction

The intent of this research brief is to profile participation, services received, and outcomes achieved by individuals with spinal cord injury (SCI) who were participants in State Vocational Rehabilitation (VR) programs. Annually, each Vocational Rehabilitation Agency funded by the Rehabilitation Act of 1973, as amended, submits to the Federal Rehabilitation Services Administration (RSA) a report, The RSA 911 Closure Report¹. Each 911 Report contains information on individuals who terminated Vocational Rehabilitation (VR) services during an identified Fiscal Year. Termination of VR Services is reported as one of four Case Closure codes by a VR agency to include the following:

- Status 08: An individual was found to be not eligible for services
- Status 28: Unsuccessful, case closed after implementing an Individualized Plan for Employment (IPE)
- Status 30: Unsuccessful, case closed after eligibility determination but before implementing an IPE
- Status 26: Successful rehabilitation.

This brief utilizes data reported from the RSA 911 Closure Reports for Federal Fiscal Years 2011, 2012, and 2013 for individuals whose primary disability is spinal cord injury. The primary focus of this brief is on those individuals with SCI whose cases were closed in Status 26 and Status 28. Additional information on the VR Case Closure data for individuals with SCI for FY 2011, 2012, and 2013 can be obtained by contacting the RRTC on Employment of People with Physical Disabilities.

Demographic Information on all VR Participants with SCI for FY 2011, 2012, and 2013

Vocational Rehabilitation Agencies closed a total of 9,205 cases for individuals with SCI during the three year period covered by federal FYs 2011, 2012, and 2013. The demographic characteristics of these individuals at time of application for VR services are presented in Table 1 on the following page. From 2011 to 2013, there was a decrease each year in the number of cases closed by VR for individuals with SCI. The 2,890 applicants closed in FY 2013 represent approximately a 10% reduction from the 3,217 applicants closed in FY 2011.

¹Detail on the RSA 911 Closure Report format for the Fiscal Years covered by this Research Brief can be viewed at <http://www2.ed.gov/policy/speced/guid/rspa/pd/2012/pd-12-05.pdf>

The number of cases VR closed for males versus females remained fairly consistent across the three years. In each year, almost 70% of the cases closed were male. The age range of the individuals was 25 to 64, at the time of application with a mean age of 43 for FY 2011, 2012, and 2013. The majority of the individuals whose cases were closed during this time period were white/Caucasian with approximately 75% of the sample each year. This was followed by individuals who were African American: 21.9% in FY 2011, 23.6% in FY 2012, and 22% in FY 2013. Very few cases were closed for individuals reported as Native American, Asian, or Pacific Islander during this time period. Ten percent or less of the sample for each of the three years was identified as Hispanic or Latino. Specific demographic information is presented in Table 1.

TABLE 1 Demographic Information on VR Participants with SCI

Demographic Data Categories	FY 2011	FY 2012	FY 2013
Number of Applicants Closed in FY	n=3,217	n=3,098	n=2,890
Male	68.5%	69.0%	69.2%
Female	31.5%	31.0%	30.8%
White/Caucasian	75.8%	73.8%	76.2%
African American	21.9%	23.6%	22.0%
Native American	1.9%	2.3%	2.0%
Asian	0.9%	1.2%	1.4%
Pacific Islander	0.6%	0.6%	0.5%
Hispanic or Latino	8.0%	8.2%	10.4%
Percent with Secondary Disabilities	39.6%	39.5%	41.1%
Mean Age at Application	42.5	43.5	42.6
Standard Deviation: Age at Application	9.8%	9.9%	10.0%

Status of Participants at Point of Case Closure by VR

Table 2 presents information on participants with SCI whose cases were closed by VR during the time period reported in this research brief. A very small percentage

of the individuals with SCI who applied for services exited as an applicant, exited during or after a trial work experience, or exited from an order of selection waiting list. In addition, the percentage for individuals who had a signed IPE but exited before receiving services was very small.

VR case closures for individuals who had been found eligible for services but did not sign an IPE decreased slightly from FY 2011 to FY 2013. Approximately 28% of the individuals whose cases were closed in 2011 exited after eligibility without a signed IPE as compared to approximately 26% in FY 2013. Or, approximately one in every four VR applicant terminated after being found eligible but before an IPE was signed.

The majority of participants with SCI whose cases were closed in FY 2011, 2012, and 2013 were closed after a signed IPE was implemented. This includes individuals who exited without an employment outcome, Status 28; and those who exited with an employment outcome, Status 26. In FY 2011, 991 (30.8%) of the 3,217 VR Case Closures were for individuals whose cases were closed in Status 26. In FY 2012, 972 (31.4%) of the 3,098 case closures were closed in Status 26. In 2013, 936 (32.4%) of the 2,890 case closures in FY 2013 were closed in Status 26. These individuals were considered a successful rehabilitation by VR agencies. For all three years, approximately 3 out of 10 individuals with a primary disability of SCI exited the VR system with an employment outcome consistent with their IPE. Conversely, approximately 7 out of 10 individuals with SCI exited the VR system without an employment outcome.

TABLE 2 Summary of Exit Categories of VR Case Closures

Reasons for Case Closure	FY 2011	FY 2012	FY 2013
Number of individuals closed by VR (All Closure Categories)	3,217	3,098	2,890
Exited as an applicant	7.4%	7.2%	5.4%
Exited during or after a trial work experience	1.2%	1.1%	0.6%
Exited from an order of selection waiting list	0.5%	1.3%	1.6%

Reasons for Case Closure	FY 2011	FY 2012	FY 2013
Exited without an employment outcome, after eligibility, but before an IPE was signed	27.9%	27.2%	25.7%
Exited without an employment outcome, after a signed IPE but before receiving services	2.6%	1.8%	2.1%
Exited without an employment outcome, after signing an IPE and receiving services (Status 28)	29.6%	30.0%	32.2%
Successfully exited with an employment outcome (Status 26)	30.8%	31.4%	32.4%
Successfully exited Status 26 in supported employment	3.6%	2.1%	2.6%

Table 3 below presents the information on the Rehabilitation Rate for individuals with SCI for the study time period. The Rehabilitation Services Administration calculates a "Rehabilitation Rate" to measure outcome performance for VR Agencies. The Rehabilitation Rate is calculated by dividing the total number of Status 26 Closures (individuals closed with an employment outcome) by the sum total of the Status 26 and Status 28 closures (individuals closed without an employment outcome after signing an IPE). The Rehabilitation Rate for individuals with a primary disability of spinal cord injury in FY 2011 was 51.0%.; in FY 2012, it was 51.2%; and in FY 2013 the Rehabilitation Rate was 50.2%.

TABLE 3 Status at Case Closure for Participants Who Had an IPE Implemented

Status at Case Closure for Individuals with SCI	FY 2011	FY 2012	FY 2013
Exited without an employment outcome, after signing an IPE and receiving services (Status 28)	n=952	n=929	n=931
Successfully Exited with an Employment Outcome (Status 26)	n=991	n=972	n=936
Rehabilitation Rate (Status 26 divided by the sum of Status 26+28)	51%	51.2%	50.2%

Demographic Information on VR Participants with SCI Closed in Employment (Status 26)

The demographic characteristics of individuals with SCI whose cases were closed in Status 26 during FY 2011, 2012, and 2013 are presented in Table 4. Approximately 70% of the participants who successfully achieved an employment outcome during this time period were male. This finding is fairly consistent with the information in Table 1 with the percentage of males whose cases were closed during these years exceeding females. The majority of the individuals whose cases were closed in Status 26 during this time period were white/Caucasian. This was followed by individuals who were African American with 17% be the highest percentage during FY 2012 and 15% being the lowest in FY 2011. Very few cases were closed successfully in Status 26 for individuals reported as Native American, Asian, or Pacific Islander during this time period. Eleven percent or less of the sample for each of the three years was identified as Hispanic or Latino. Specific demographic information is presented in Table 4.

TABLE 4 Demographic Information on VR Participants with SCI Closed in Status 26

Demographic Data Categories	FY 2011 (n=991)	FY 2012 (n = 972)	FY 2013 (n = 936)
Male	66.1%	70.4%	69.9%
Female	33.9%	29.6%	30.1%
White/Caucasian	83.7%	80.3%	81.8%
African American	14.5%	17.2%	16.3%
Native American	1.4%	1.6%	1.4%
Asian	1.0%	1.6%	1.1%
Pacific Islander	0.5%	0.8%	0.5%
Hispanic or Latino	6.9%	6.8%	11.3%

Comparison of Services for Participants Closed in Status 26 or 28

Table 5 on the following page presents the primary services received through VR for participants whose cases were closed in Status 26 during FY 2011, 2012, or 2013. Table 6, on page 6 presents the services

received by participants closed unsuccessfully in Status 28 for this same time period. Assessment, VR counseling and guidance, and rehabilitation technology were the three most frequent services received for individuals whose cases were closed successfully. Assessment, VR counseling and guidance, and diagnosis and treatment were the three most frequent services received for individuals whose cases were closed unsuccessfully during the same time period.

A larger percentage of individuals whose cases were closed in Status 26 received rehabilitation technology services than those whose cases were closed unsuccessfully. The Rehabilitation technology service category includes rehabilitation engineering, assistive technology devices, and assistive technology services. In FY 2011, 47.8% of the individuals closed in Status 26 received this service as compared to 22.9% whose cases were closed in Status 28. This finding remained consistent across the time period with 47.5% of successful cases receiving rehabilitation technology services in 2012 versus 22% who were unsuccessful. In 2012, 48.8% of those cases closed successfully received rehabilitation technology services as compared to 24.3% whose cases were closed unsuccessfully. In other words, almost 50% of all successful case closures received rehabilitation technology services during FY 2011, 2012, and 2013.

The percentage of individuals who received job placement assistance was slightly higher for those whose cases were closed successfully. This was approximately 30% across all three years for individuals closed in Status 26 versus less than 25% for individuals closed in Status 28. The difference in job search assistance services received by two groups is also small. In 2011, approximately 19% of the cases closed successfully received job search assistance versus 16% of the cases closed unsuccessfully. In 2013, the percentage of cases closed in Status 26 receiving job placement services remained at approximately 19% while the percentage of those cases closed in Status 28 increased slightly to 19%. For both Status 26 and 28, the percentages are low for individuals who received these services from vocational rehabilitation.

The percentages of participants who received college or university training as a service were less than

25% for both Status 26 and 28 during this time period. Individuals whose cases were closed in Status 28 or unsuccessfully received this as a service at a higher percentage than those whose cases were closed successfully. For instance, in FY 2011, 14.4% of the individuals whose cases were closed in Status 26 received this service as opposed to a slightly higher percentage of 21.1% for individuals whose cases were closed unsuccessfully. In 2013, the percentage of cases closed successfully receiving college or university training as a service was 14.1% as opposed to a slight increase to 24.1% for those individuals whose cases were closed unsuccessfully.

Differences in percentages for other services vary slightly between the two groups. For instance, transportation as a service was in the top five services received for both groups. In FY 2011, 31.6% of the individuals whose cases were closed in Status 26 received this service as opposed to a slightly higher percentage of 32.2% for individuals whose cases were closed unsuccessfully. In 2013, the percentage of cases closed successfully receiving transportation as a service remained fairly consistent at 31.8% as opposed to a slight increase to 36.4% for those individuals whose cases were closed unsuccessfully. Please refer to Table 5 and 6 for services received by participants closed in Status 26 and 28. Services received by less than 1% of the closures were not included in these tables.

TABLE 5 Services Received by Participants Closed Successfully in Status 26

VR Services Received	FY 2011 (n=991)	FY 2012 (n=972)	FY 2013 (n=936)
Assessment	66.8%	65%	65.2%
VR Counseling and Guidance	66.3%	67.9%	65%
Rehabilitation Technology	47.8%	47.5%	48.8%
Diagnosis and Treatment	40.8%	40%	37.8%
Other Services	34.5%	34%	34%
Transportation	31.6%	35%	31.8%
Job Placement Assistance	29.5%	31.2%	31.2%
Information and Referral	23.7%	20.6%	19.7%

VR Services Received	FY 2011 (n=991)	FY 2012 (n=972)	FY 2013 (n=936)
Job Search Assistance	18.6%	20%	18.8%
College or University Training	14.4%	15.8%	14.1%
Maintenance	14.2%	14.6%	16.1%
On-the-Job Supports	13.9%	13.6%	14.5%
Occupational/Vocational Training	10.4%	10.2%	12.1%
Misc. Training	10.1%	13.1%	12.6%
Job Readiness Training	7.8%	7.7%	7%
Technical Assistance	4.1%	3.8%	4.2%
On-the-Job Training	3.2%	2.8%	2.6%
Disability Related Augmentative Training	2.2%	3.2%	2.1%
Personal Attendant	1.6%	1.2%	2.6%
Interpreter	1.6%	0.4%	0.5%

VR Services Received	FY 2011 (n=991)	FY 2012 (n=972)	FY 2013 (n=936)
Job Readiness Training	7.8%	8.9%	8.3%
On-the-Job Supports	7%	8.2%	6.9%
Technical Assistance	2.8%	1.9%	1.9%
On-the-Job Training	2.1%	1.4%	1.7%
Personal Attendant	1.6%	1.3%	2.5%
Disability Related Augmentative Training	1.5%	1.5%	1.2%

Educational Level for Status 26 Closures at Application and Closure

Tables 7, 8, and 9 provide information on the educational levels for all Status 26 closures at application and closure. Although small, there is an increase in the percentage of individuals at closure who completed an associates, bachelor's, or master's degree or higher. Please see these tables for specific percentages.

TABLE 6 Services Received by Participants Closed Unsuccessfully in Status 28

VR Services Received	FY 2011 (n=991)	FY 2012 (n=972)	FY 2013 (n=936)
Assessment	58.9%	63.9%	57.5%
VR Counseling and Guidance	57.8%	63.5%	59.5%
Diagnosis and Treatment	39.7%	40.6%	43.5%
Transportation	32.2%	32%	36.4%
Other Services	27.9%	30.6%	30.3%
Job Placement Assistance	24.7%	21.6%	21.7%
Rehabilitation Technology	22.9%	22%	24.3%
College or University Training	21.1%	21.3%	24.1%
Information and Referral	16.2%	16.5%	18.7%
Job Search Assistance	15.5%	18%	19.1%
Maintenance	12.8%	14%	14.3%
Misc. Training	11.9%	9%	9.8%
Occupational/Vocational Training	10.8%	13.5%	12.6%

TABLE 7 Status 26 Level of Education at Application and Closure FY 2011

Education Level Completed	FY 2011 Application	FY 2012 Closure
No Formal Schooling	.2	.2
Grades 1-8	.9	.8
Grades 9-12	5.7	4.2
SPED Certificate	.7	.3
HS graduate	30.8	23.6
Post-Secondary, no degree	18.5	17.7
Associates Degree	13.8	18.1
Bachelor's Degree	19.8	23.5
Master's Degree or Higher	9.7	11.6

TABLE 8 Status 26 Level of Education at Application and Closure FY 2012

Education Level Completed	FY 2011 Application	FY 2012 Closure
No Formal Schooling	0	0
Grades 1-8	1.3	1.1

TABLE 9

Status 26 Level of Education at Application and Closure FY 2013

Education Level Completed	FY 2011 Application	FY 2012 Closure
No Formal Schooling	.2	0
Grades 1-8	1.3	1.1
Grades 9-12	5.4	4.3
SPED Certificate	.4	.2
HS graduate	28.9	23.1
Post-Secondary, no degree	19.9	17.5
Associates Degree	15.9	20.5
Bachelor's Degree	18.4	22.2
Master's Degree or Higher	9.6	11.2

Employment Outcomes for Individuals Closed in Status 26

Table 10 presents information on hours worked per week and weekly earnings for individuals with SCI who terminated VR services in employment. The average number of hours worked per week by individuals with SCI was approximately 29 hours, which was consistent across the three year time period. Weekly earnings averaged \$468.56 in FY 2011, \$499.59 in FY 2012, and \$481.09 in FY 2013. Table 11 shows the percentage of participants closed who worked full time versus part time with part time employment defined as less than 35 hours per week. Slightly more than half of the participants worked less than 35 hours per week with the remaining working full time or more than 35 hours per week.

TABLE 10

Earnings and Hours of Employment Outcomes for Individuals Closed Successfully in Status 26

Employment Outcomes	FY 2011 (n=991)	FY 2012 (n=972)	FY 2013 (n=936)
Hours Worked per Week	29.1	29.4	29.3
Weekly Earnings	\$468.56	\$499.59	\$481.09

TABLE 11

Full versus Part-Time Employment Outcomes

Hours Worked at Closure	FY 2011 (n=991)	FY 2012 (n=972)	FY 2013 (n=936)
< 35 hours per week	29.1	29.4	29.3
> 35 hours per week	48.2%	47.6%	47.8%

State VR Agencies Employment Outcomes

Table 12 below presents the states who had a higher percentage of cases closed in Status 26 than the national outcomes at or above 50% of terminations. State VR Agencies with a higher percentage of individuals closed with an employment outcome ranged from states with larger populations to smaller.

TABLE 12

Percent and Number of Individuals with SCI that were Closed Successfully in Employment

State	FY 2011	State	FY 2012	State	FY 2013
Missouri	n=96 58.3%	Missouri	n=96 55.2%	New York	n=127 49.6%
Alabama	n=42 50%	Oklahoma	n=37 48.6%	Missouri	n=81 53.1%
Iowa	n=41 53.7%	Nebraska	n=19 57.9%	Oregon	n=18 50%
Vermont	n=14 57.1%	West Virginia	n=15 46.7%	Nebraska	n=11 54.5%
Nebraska	n=13 53.8%	Delaware	n=8 50.0%	South Dakota	n=10 60%
Delaware	n=8 50%				
Rhode Island	n=6 50%				

Discussion

Nationally, state VR agencies reported closing 3,217 cases in FY 2011, 3,098 cases in FY 2012, and 2,890 cases in FY 2013 in the four case closure codes: Status 08, Status 28, Status 30, and Status 26. This represents approximately a 10% drop in the number of case closures from 2011 to 2013. For each year in this time period, approximately three individuals with SCI exited VR with an employment outcome consistent with their IPEs while seven individuals exited unsuccessfully. Specifically, 991 individuals with SCI were closed in Status 26 during FY 2011, 972 in FY 2012, and 936 in FY 2013. Status 26 closure represents those cases closed successfully including the following outcomes:

- competitive employment (including supported employment),
- self-employment,
- state agency managed business enterprise,
- homemaker, and
- unpaid family worker.

Very few individuals with SCI were closed in supported employment for Status 26 with less than 4% for each year of this time period.

A number of state VR agencies had success rates at or above 50%. The national success rates for individuals with SCI ranged from 30.8% in FY 2011 to 32.4% in FY 2013. The state VR agencies for Missouri and Nebraska were in the top 3 percentile positions in each of the three Fiscal Years. Both small and large states achieved higher than the national success rates during this time period. This current data does not provide information on why some states have a greater success rate with individuals with SCI than others. Future research should focus on these higher achieving states to determine what services and supports are resulting in higher outcomes.

The demographics of individuals whose cases were closed during this time period are consistent with the national statistics for spinal cord injury in the four Case Closure Codes. There were more males than females who terminated VR services during each of the three years with approximately 70% of the cases male versus females (30%). This information is consistent with data showing that there is a greater incidence of males

with SCI (80.6 to 82%) than females (CDC, 2010; National Spinal Cord Injury Database, 2012). Other demographics found in this sample of individuals with SCI are consistent with the findings from the National Spinal Cord Injury Statistical Center (NSCISC). The NSCISC found that the average age at injury is 41.0 years; 66% are Caucasian; 26.2% are African American, 0.9% are Native American, and 8.3% are Hispanic in origin. In comparison this sample found that the average age at application for VR services was 43 and approximately 75% were Caucasian, 25% were African American; 2% were Native American and 10% were identified as Hispanic or Latino.

The top three services received by individuals who exited VR with an employment outcome consistent with their IPEs, were assessment, VR counseling and guidance, and rehabilitation technology. While the top three services received by individuals whose cases were closed unsuccessfully were assessment, VR counseling and guidance, and diagnosis and treatment. The most noticeable difference for these two groups was the difference in percentages for receiving rehabilitation technology as a service. Approximately 50% of the successful closures across all three years received this service as compared to less than 25% of those who were unsuccessful. While this report does not provide information on whether there is a relationship between successful employment outcomes and receipt of rehabilitation technology services, this finding suggests a need for further research in this area.

A small percentage of individuals with SCI had a bachelor's degree or higher at the time of application. College or university training is one of the primary services that can be received by participants in the VR program. However, the percentages of participants who received college or university training as a service were less than 25% across all three years for individuals whose cases were closed unsuccessfully in Status 28 and less than 16% for those closed successfully in Status 26. For those individuals whose cases were closed successfully, there was a slight increase in the number of individuals existing services with an associates, bachelors, master's degree, or higher. This is important to note given that some researchers have shown that postinjury educational milestones are important to postinjury employment (Krause et al., 2012).

Information on employment outcomes including hours worked per week and earnings for individuals with SCI closed in Status 26 also are reported for this time period. Hours of weekly employment for individuals closed in employment held steady at approximately 29 hours for each of the three years. Approximately one half of the individuals were working part time as defined by working less than 35 hours per week. While the other half were working full time. This outcome also remained fairly steady during this time period with a very small percentage difference in those working full time versus part time. Average weekly earnings ranged from a low of \$468.56 in FY 2011 to a high of \$499.59 in FY 2012. If this average wage is converted to an annual income across 52 weeks, individuals closed successfully in employment would be making approximately \$26,000 annually. For comparison, the 2014 poverty guidelines for four individuals living in the same household is \$23,850 (US Department of Health & Human Services, 2014). Future research is needed on the types of jobs that individuals with SCI are finding and potential ways to increase the outcomes of this group of individuals.

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For more information on the VCU-RRTC, please visit <http://www.vcurrtc.org>.

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